



Manual
Data Retrieval Software for HP
Jornada 520 Series Pocket PC
Model 6301

Revision History

File name / Revision	Date	Authors
Previous version BX	2004	RS/ JH
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2. Scope and References

2.1 Scope

This document explains use and operation of the Model 6301C DRS software version 2.5. This document does not cover use and operation of the HP Model 520 series Jornada Pocket PC.

2.2 References

UNIDATA Australia Digital Water Level Recorder Manual 6264

HP Jornada 520 User Manual (file: jornada 520 manual.pdf on CD)

2.3 Abbreviations

CSV – Comma Separated Values

DRS – Digital Retrieval System

DWLR – Digital Water Level Recorder

HP – Hewlett Packard

LDR – Starlog Load File to program DWLR

RTF – Rich Text Format

SQL – A connector type

2.4 Other Copyrights

Microsoft, HP, Hewlett-Packard and other third party names are copyright of their respective owners.

3. Introduction

The Digital Retrieval System (DRS) comprises an HP Jornada Pocket PC Model 520 and a software package developed by Unidata Australia Pty Ltd.

The DRS is designed to work with the Model 8007 Digital Water Level Recorder manufactured by Unidata Australia.

The DRS provides the following functions;

- Real Time Data Display of the DWLR instrument data and logger data
- Unloaded of logged data from the DWLR
- Programming of the DWLR
- Display unloaded data in tables or graph format
- Conversion of unloaded data into RTF or CSV format for use on a PC.
- Zeroing of DWLR offset (not in Version 2.5)



Figure 1 – Picture of an HP Jornada 520

1	Rubber Cushion	7	Status LED
2	Microphone	8	Touch Screen
3	Action Button	9	Speaker
4	Record Button	10	On/Off Button
5	Hot Keys	11	Power Socket
6	Serial Port		

4. Installing and Running the DRS Software on a Pocket PC

Microsoft ActiveSync software must first be installed on your main PC (not the pocket PC). The DRS software uses ActiveSync to install the DRS software. Microsoft ActiveSync is supplied with the HP Jornada 520 on a separate CD. Microsoft ActiveSync can also be downloaded from the Microsoft website (<http://www.microsoft.com/mobile/downloads/>)

To install Microsoft ActiveSync follow the instructions supplied with the CD.

Connect the HP Jornada 520 to the PC using the sync cable supplied by HP with the Jornada. Check the synchronizing operation.

Using the CD supplied by Unidata Australia install the DRS software onto your PC. To do this run 'Setup' from the CD1 folder on the Unidata CD. The following Dialogs will show on the Desktop PC screen...

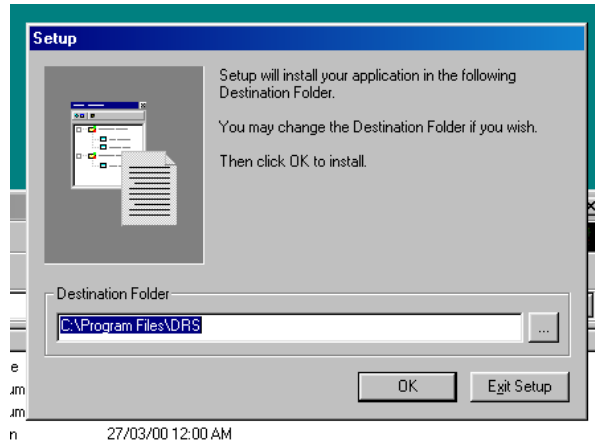


Figure 2 - Setup Dialog 1

NOTE: If you have previously installed the Unidata DRS package you must first delete the folder DRS in the Program Files directory (as indicated above) in order to re-install or upgrade the DRS package.

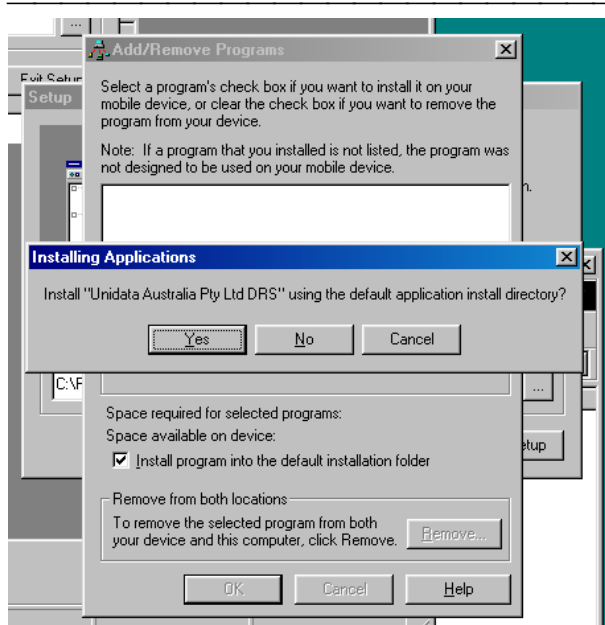


Figure 3 - Select the installation directory

Note: ALWAYS install the Unidata Australia DRS into the default application directory – if you do not do this some DRS functions will not work correctly.

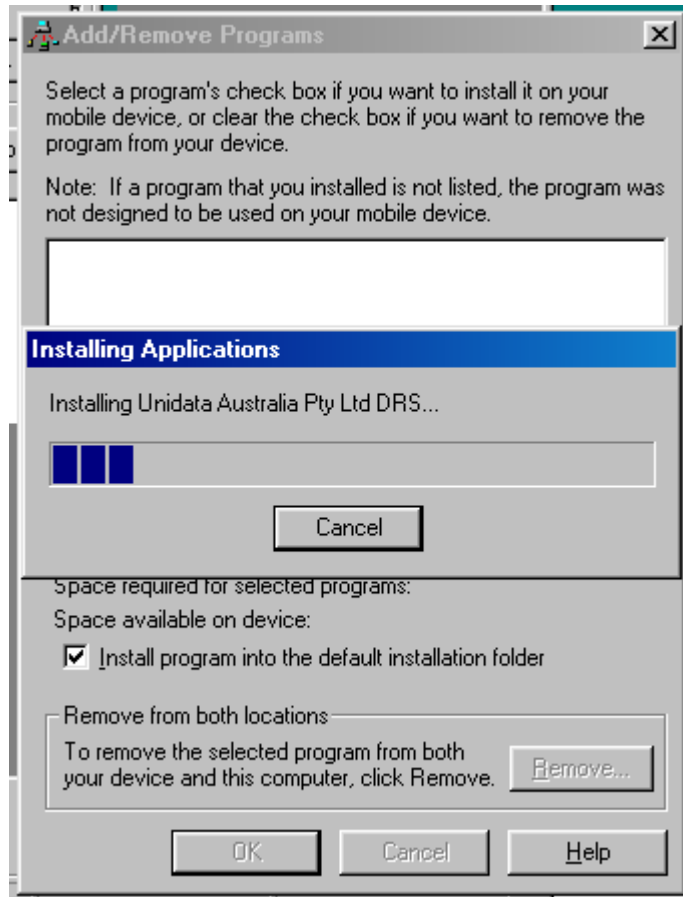


Figure 4 - Installation Progress Dialog

The above dialog will show if Microsoft ActiveSync can successfully download the DRS application program to the Jornada 520.

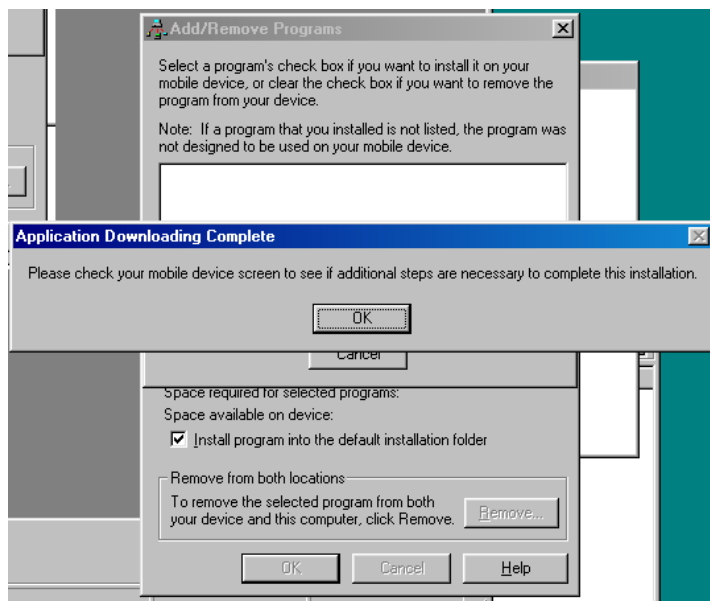


Figure 5 - Installation Dialog - Final Actions

The above dialog shows at completion of the DRS installation onto the Jornada 520.

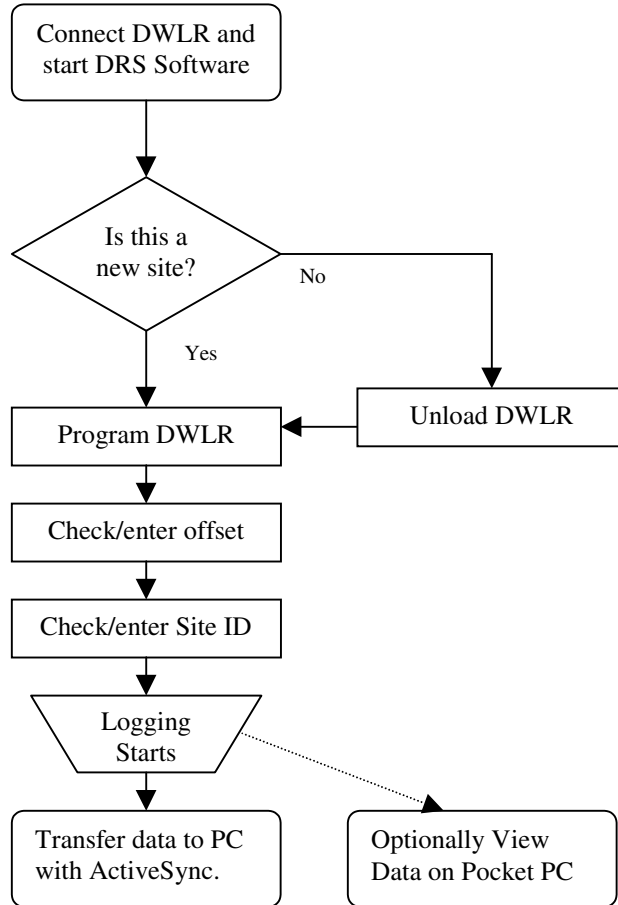
Once the DRS software has been successfully installed on your PC you can customize the menus on your device to ensure you have easy access to the DRS programs and documents. For detailed instructions see page 74 in the users manual on the Unidata CD. At any time you can run the DRS software by using the Pocket PC file explorer to go to the directory 'Program Files/DRS' and clicking the file 'DRS'. UNIDATA suggest that you assign a hardware shortcut key to the DRS program. The instructions are in the HP users manual.

To view any real time data, program or unload a DWLR you must first connect the DWLR to the HP Jornada 520. There are three cables required to do this:

- A. The HP ActiveSync Cable – connect this to cable B with the 9 pin connectors.
- B. The DWLR to ActiveSync Cable provided by UNIDATA – connect this to cable C with the SQL weather proof connectors.
- C. The DWLR Cable fitted with an SQL connector and blanking cap.

5. Operating Sequence

The diagram below shows the sequence of actions required to program, unload data and then reprogram (reset) the DWLR from the DRS.



6. Main Menu Page

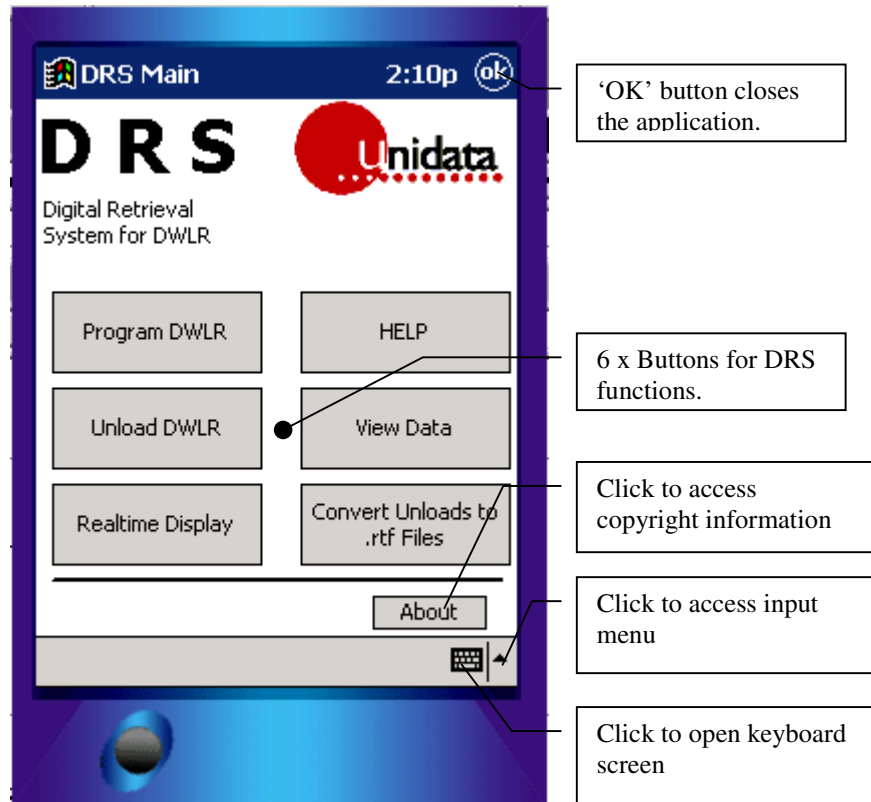


Figure 6 – DRS Main Menu Screen.

The above picture shows the main menu running on a Pocket PC. There are 7 buttons available. The function of these is discussed in the following sections. To close the DRS Main window click with the stylus on the 'OK' symbol in the upper right hand corner of the screen. To select any function from the DWLR screen click on the button with the stylus. If a function that requires communications with the DWLR is selected the user will be prompted with the following dialog:

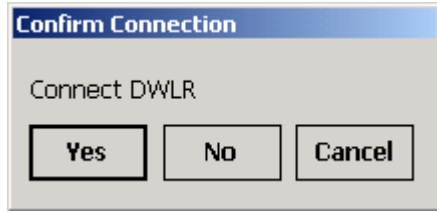


Figure 7 - Confirm Connection Dialog

To confirm that the DWLR is connected and ready to use click 'Yes' otherwise click 'No' or 'Cancel'.

NOTE: If the user selects 'Yes' to the above dialog while the Pocket PC is still plugged into a desktop PC an error message indicating 'Port already in use' will appear on the DRS. The user should close the DRS application, disconnect the desktop PC, connect the DWLR and restart the DRS application. If the user selects 'Yes' to the above dialog when there is no DWLR plugged in the DRS will not indicate an error but neither will any functions that use communications be possible. The user should close the DRS application, connect the DWLR and then restart the DRS application.

7. About Screen

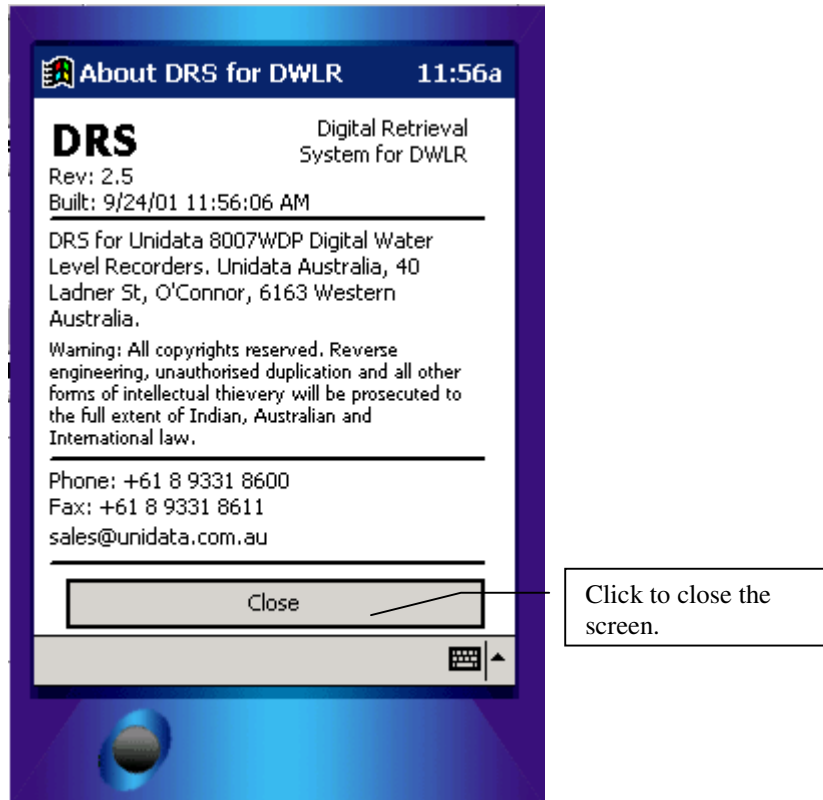


Figure 8 - About Screen

This screen shows copyright and license information. To close the screen and return to the main menu press the 'Close' button.

8. Program DWLR Screen

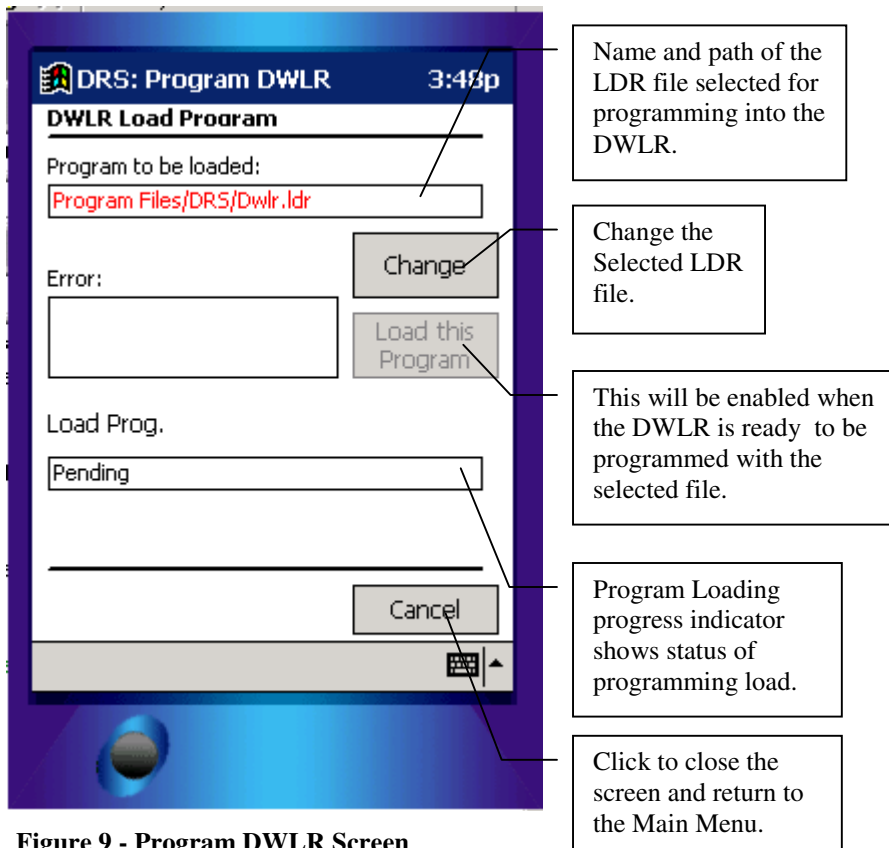


Figure 9 - Program DWLR Screen

This menu is used to program the DWLR. This must be done after every unload and before any logging will occur. In most circumstances that the LDR file that will be programmed into the DWLR will be the same but if required the user can change this file. The default directory for the standard LDR file is /Program Files/DRS but the default directory for user selected LDR files is /My Documents/data.

The DWLR cannot be programmed until it is online. This will be indicated by the 'Load this Program' button changing to enabled mode. When this occurs

the user should immediately click the 'Load this Program' button and the programming process will start.

While the DWLR is programming the progress indicator shows the progress- when the programming is finished the progress indicator will show 'Programming Finished'. At this point the user can use the 'Cancel' button (which will change to 'OK') to exit the Program DWLR Screen.

Creating and Loading a New LDR File

The DRS can store many different programs to be loaded into the DWLR. These files are created using UNIDATA's STARLOG version 3 software package on a desktop PC. The STARLOG software will create a file called 'scheme.ldr' in the c:\starlog\schemes directory, (scheme is used to refer to the user selected scheme name in STARLOG software). To use this file transfer the resultant SCHEME.LDR file to the /My Documents/data folder on the Pocket PC using Microsoft ActiveSync. The new SCHEME.LDR file can then be used with the DRS by changing the selected file in the Program DWLR Screen. Note that the default name of the LDR file is DWLR.LDR – this can be changed in the Utility Screen.

NOTE: Do not create or attempt to use LDR files with names longer than the DOS convention of 8-character length. Even though the Pocket PC can handle this, STARLOG cannot.

9. Unload Data Screen

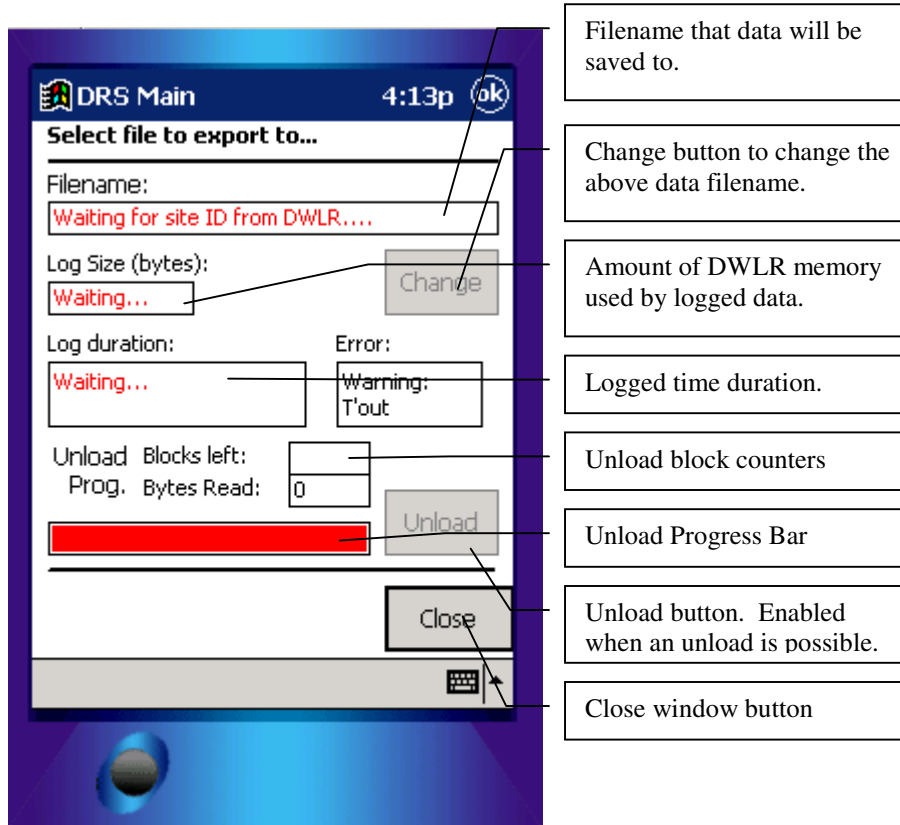


Figure 10 - Unload Data Screen

The Unload Data Screen is used for downloading data from the DWLR into the DRS memory. The DRS memory can hold at least 50 downloads of 128k each. (Note: this is provided the Jornada's memory is not filled with other third party data or software)

When the Unload Data Screen is opened the DRS must first connect to the DWLR - this is indicated by the red text message 'Waiting for site ID from DWLR'. Once the DWLR serial number is acquired the filename will be indicated and the Change and Unload buttons will be enabled. The filename is

composed from the following information and is intended to be unique for all sites. This filename can be changed by the user clicking on the 'Change' button or by using the Jornada's keyboard.

DWLR Serial No.	Date (dd-mm-yy)	Time (hh-mm-ss)	Extension
1234_	10-10-01_	14-26-12	.uld

Table 1 - Explanation of an Unload File Name Format

When the 'Unload' button is clicked the Progress Bar will indicate the unload progress. The unload process can take awhile – up to 30 minutes for 64K of data. When unloading is complete the Progress Bar will change to green. At this time the data has been downloaded and save into the /My Documents/data directory and the screen can be closed.

NOTE: The time format set on the Pocket PC will affect the file name above. If a 24 hour format is selected then 24 hour time will be used (as shown above) – otherwise a PM or AM will be indicated. UNIDATA suggests the use of 24-hour file names and this must be set using the Pocket PC Settings Menu. See the user manual for more information.

10. View Data Menu Screen

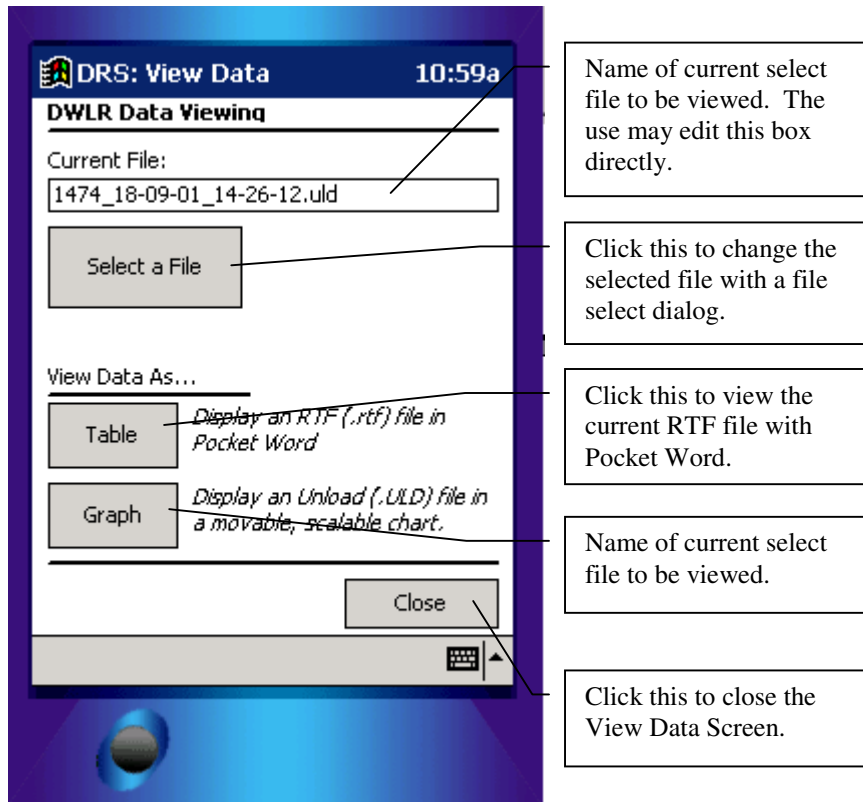


Figure 11 - View Data Screen

The View Data Screen is used to select and then view an unload file (.uld) or RTF file (.rtf). The .uld format is a raw unload format that cannot be viewed as an RTF file and must be converted to an RTF file before viewing with Pocket Word. RTF files can also be opened automatically with MS Word or MS Excel and hence make a convenient data interchange format between the pocket PC and Desktop PC.

If the user attempts to view a ULD file with the Table button or an RTF file with the Graph button an error message will appear.

To change the selected file click on the Select File button. A dialog box will then open allowing the user to select an alternative file for viewing from the /My Documents/data directory.

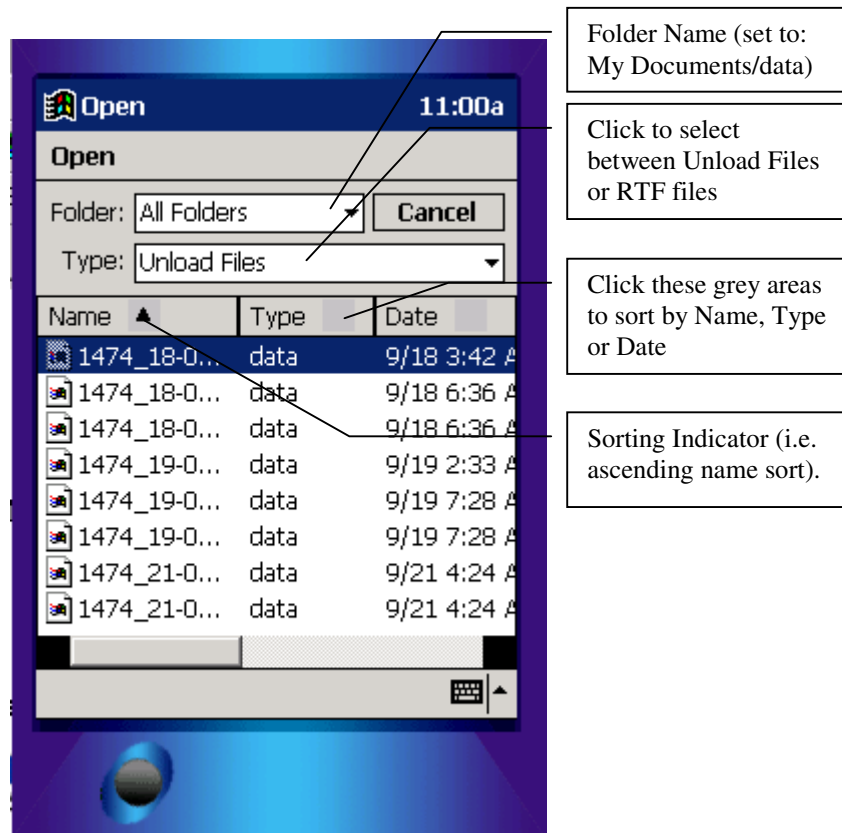


Figure 12 - File Select Dialog

This dialog allows the user to select the file to view. To close the dialog box click on 'Cancel'. Clicking the stylus on the grey areas next to the Name, Type or Date text can change the file sorting order.

Tabular Data View



Figure 13 - Pocket Word viewing an RTF File

Pocket Word is used to view data in a table view. The user can scroll and search for data using the built in Word functions.

Graphical Data View

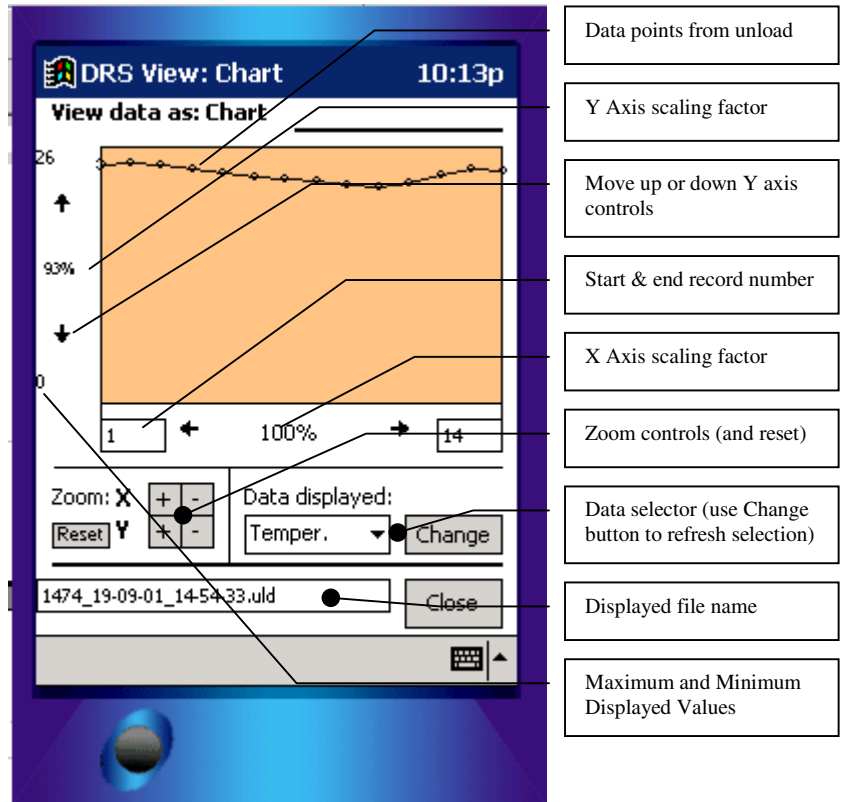


Figure 14 - Chart Data View

The user can select one of three values to display (Temperature, Level, Voltage) on the chart – if a new value is selected the ‘Change’ button should be clicked to refresh the screen.

The user can move up, down, left or right along the data series with the arrow indicators and can zoom in or out with the + or – zoom buttons. The reset button sets the chart back to normal display.

11. Real Time Data Display

The screenshot shows the 'DWLR Realtime Data Display' window. It features a title bar with 'DRS: Realtime Data' and '10:11p'. The main area is divided into several sections:

- Scheme Information:** 'Scheme: PUNE1', 'DWLR S/N: 1234', and 'DWLR Time: 14:04:23' with a 'Set' button.
- Battery and Level Data:** 'Batt Voltage: 6.5V V', 'Batt % Cap: 80%', 'Level (mm): 123mm', and 'Temp (C): 23.3C'.
- Logging Configuration:** 'Log Started: 23/03/01 12:00', 'Last Logged: 04/08/01 18:00', 'Scan Time (sec): 1 hr', 'Log Interval: 6 hr', and 'Logger Status: Logging'.
- Log Size:** 'Log Size: 300k'.
- Offset:** 'Offset (mm): 0mm' with a 'Set' button.
- Buttons:** 'Comms OK', 'Utils', and 'Close'.

Callout boxes provide the following explanations:

- Scheme Name & Serial Number from DWLR.** (Points to PUNE1 and 1234)
- Time & date from DWLR. Set can be used to sync the DWLR time with the DRS.** (Points to 14:04:23 and Set)
- Real time level, battery voltage and temperature values from DWLR.** (Points to 123mm, 6.5V, and 23.3C)
- Log start time and last log time from DWLR** (Points to 23/03/01 12:00 and 04/08/01 18:00)
- Datum offset can be set with 'Set' button.** (Points to 0mm and Set)
- Scan time, logging interval and logging status from DWLR.** (Points to 1 hr, 6 hr, and Logging)
- Log size is amount of used DWLR memory (in Bytes)** (Points to 300k)
- Click to open Utilities screen.** (Points to Utils)
- RS232 Comms Status** (Points to Comms OK)

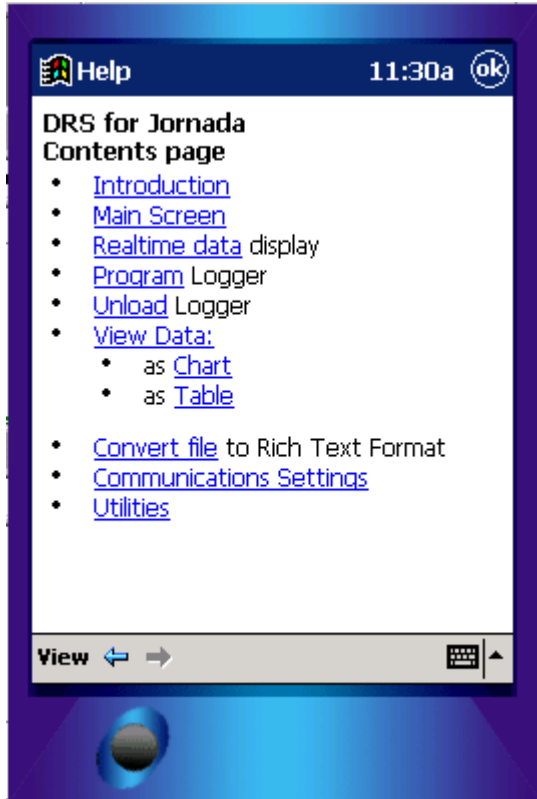
Figure 15 - Real Time Data Display

The real time data display reads information from the DWLR at 15-second intervals. The real time data display can be used to set values in the DWLR such as the Offset and DWLR time.

The 'Offset' is used by the DWLR to calculate the final level reading from the raw level reading. The calculated level reading is the reading that is logged. A negative offset value can be entered.

12 Help Screens

To access help with the Pocket PC click the 'HELP' button from the Main Screen. The help system will access help files on the Pocket PC. A sample help page is shown below...



The underlined blue text are hyper-links. Clicking on these with the stylus will bring a new screen with more information.

13 Transferring Files Between Desktop and Pocket PC

Transferring files between the Desktop and Pocket PC is very simple and uses Microsoft's 'ActiveSync' program. The 'ActiveSync' program will attempt to keep duplicate copies of files in the desktop of those in the pocket PC and vice versa.

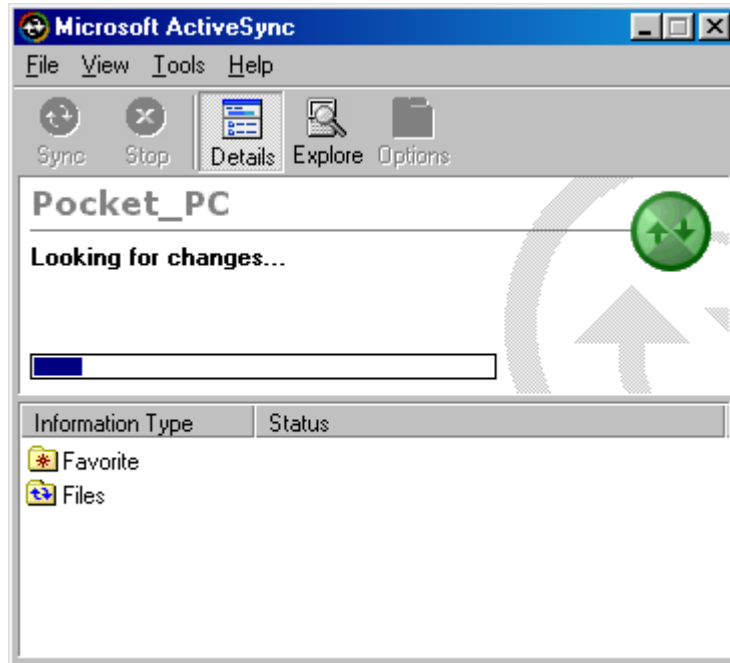


Figure 16 - ActiveSync Looking for Changes Dialog

When a Pocket PC is first connected to the Desktop PC the ActiveSync program will look for any changes. If the ActiveSync program finds changes (or differences) it will attempt to copy or delete files on the Desktop PC to reflect the contents of the Pocket PC and vice versa. This allows easy transfer in particular of download file from the pocket PC to the Desktop PC.

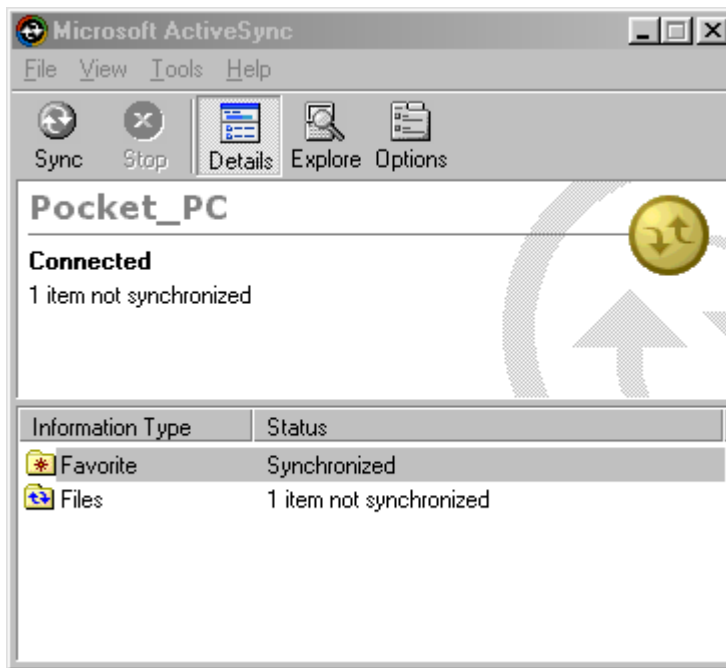


Figure 17 - Not Synchronized Dialog

If any unsynchronized items are found the ActiveSync dialog will show the number and location of the unsynchronized files. The details of the unsynchronized files can be viewed by clicking on the 'Files' icon in the bottom section of the dialog.

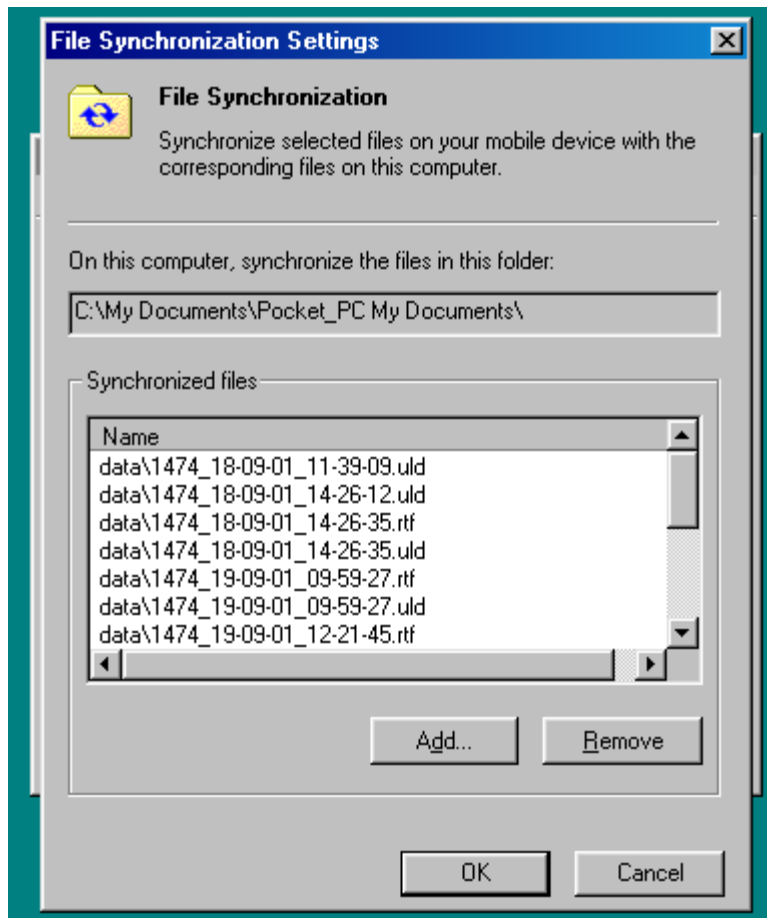


Figure 18- File Synchronization Settings

Details on which files are synchronized are shown. As indicated above the folder “\My Documents\Pocket_PC My Documents\” on the Desktop PC is where files are synchronized between the Pocket PC and Desktop PC. This location corresponds to \My Documents on the Pocket PC.

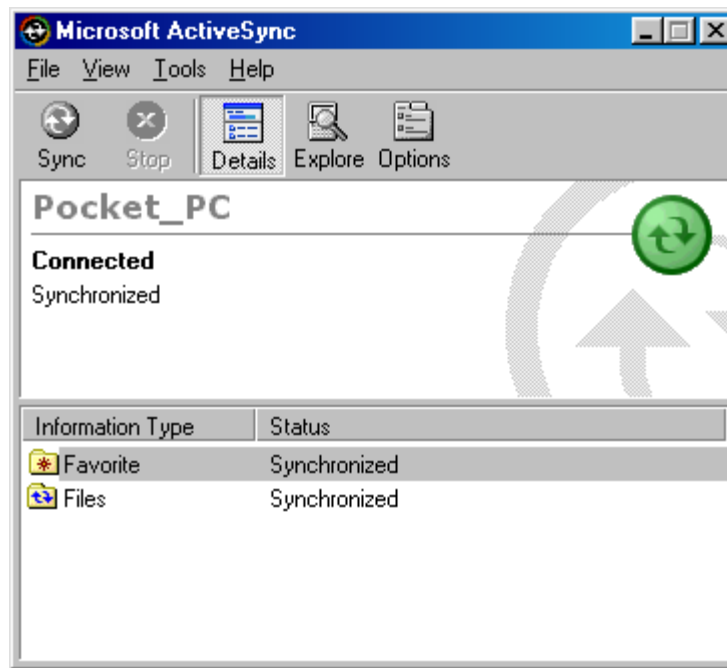


Figure 19 - ActiveSync Synchronized Dialog

Once synchronization has been achieved occurred the ActiveSync dialog will indicate this with a green indicator and text.

14 Utilities and Comm Settings

The following screen is a utility screen. It provides some utility functions for setting parameters in the DRS and controlling specialized DWLR functions.

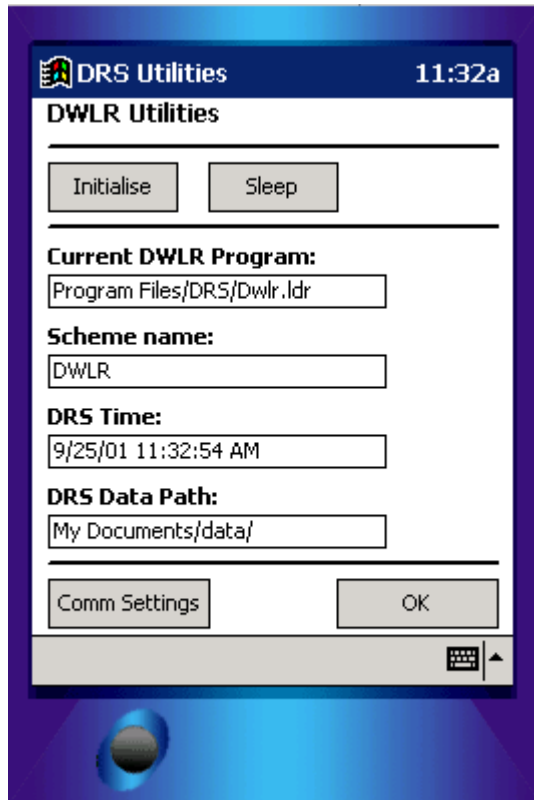


Figure 20 - DRS Utilities Screen

The following screen provides information on the communication settings the DRS and DWLR use. These settings should only be changed on advice from the UNIDATA factory.

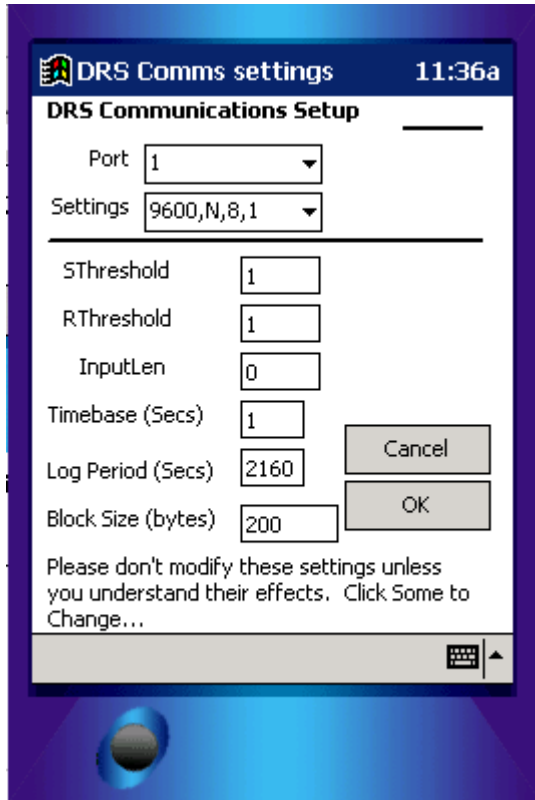


Figure 21 - DRS Comms Settings Screen

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